

**Graduate Student Teaching Skills Preparation**  
Academic Careers Subcommittee  
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**Preamble:**

**The following case was designed to introduce some of the common challenges faced by a new faculty member. As you progress through the rest of the document, think back to the case and consider what tools “John” might find helpful in this situation.**

John, a 29 year old male who was hired in July as an Assistant Professor in the School of Pharmacy, is well trained in his field, having completed a doctoral degree and post-doctoral training at a prestigious institution. He is excited about his new position, but nervous because he will have to teach a required course to 120 PharmD students during his first semester (beginning in late August!), while concomitantly setting up his research program. He has a good general understanding of the content area, but no prior experience teaching in a professional, clinical practice program. He served as a TA during his training, mostly grading papers for his primary advisor, but received no formal training in teaching pedagogy or classroom management.

The course was taught for many years by a professor beloved by the student body, who is currently enjoying a year-long sabbatical. John's division chair, Margaret, tells him, “Don't worry about the course, it will practically teach itself and I've assigned two TAs to help you.” John will soon discover that these first year graduate students, though very eager and hardworking, have difficulty communicating effectively in English and have no prior teaching experience, but need the TA assignment to receive a graduate stipend and tuition remission. Margaret hands him a piece of paper, with the words “course syllabus” typed across the top, which contains only lecture dates (last year's) and corresponding textbook chapters, and a statement indicating that the course is graded on a 10 point grading scale, with the possibility of a curve if average grades are very low. She also provides a textbook, advising John to “make sure to get through chapter 27, because that's where they pick up the next semester.”

John meets Jennifer, a 35 year old female Associate Professor in the office next door, for coffee one afternoon soon after the semester begins. She asks how he's doing so far and he replies “fine” but quickly changes the subject to policies regarding the shared use of research equipment within the School. Jennifer has heard rumblings among the honors students she advises that John is not a very effective teacher. They say that he tries to cover way too much material per session and he reads directly from his PowerPoint slides without offering any additional explanation. When they ask questions, he becomes very defensive and usually responds, “That's covered in the book!” Students complain that the reading assignments are long, and that the textbook is poorly written and badly organized. Students admit that many of them regularly skip class, because it doesn't add to their understanding, and that there is usually a lot of chatter and inattentive behavior during class. She has also heard students discussing unprofessional e-mail messages sent to the class listserv and substantial academic dishonesty on the assignments and exams. Jennifer has also overheard a senior faculty member in their division tell students that John is teaching outside his area of expertise and that they, “would have to complain to the Dean if they wanted anything to change.” Jennifer recalls how difficult her first teaching experience was, but feels like she shouldn't offer any advice unless John asks for it. She responds to John's questions about equipment and asks him if he has completed HIPPA training for his research.

## **I. Teaching Philosophy**

A teaching philosophy statement provides an instructor the opportunity to document the foundation for teaching decisions and direction and to communicate one's philosophy with others. Writing such a statement demonstrates a serious commitment to teaching and answers the question: Why do I teach?

The statement reflects the instructor's concept of teaching, including a rationale for how he teaches and why. How does he perceive his role as a teacher? Does his teaching reflect a more traditional, teacher-centered paradigm of teaching, or a student-centered paradigm? The statement communicates teaching goals and actions taken to achieve them. Do the instructor's actions reflect his beliefs? It is a living document that is insightful and interesting to the reader.

Teaching philosophy statements are the foundation for teaching portfolios which house critical reflection about one's teaching and documentation of scholarship and continual improvement. (Classick, Huber and Maerhoff, *Scholarship Assessed*, San Francisco: Jossey-Bass, 1997.)

For more insight, see "Statements of Teaching Philosophy" by Goodyear and Allchin, <http://www.utep.edu/cetal/pub/stofteac.html>.

## **II. Teaching Skills**

### **A. Designing Instruction**

#### **1. Developing a syllabus**

##### Purpose

- First point of interaction between instructor and student
- Comprehensive communication to students regarding class expectations
- Demonstration of the instructor's understanding of students' needs and interests

##### Goals

- Define students' responsibilities
- Define instructor's role and responsibility to students
- Provide a clear statement of intended goals and student outcomes
- Establish standards and procedures for evaluation
- Acquaint students with course logistics (especially important for group work and out of class experiences)
- Establish a pattern of communication between instructor and students
- Include difficult to obtain materials such as readings, complex charts, and graphs

##### Getting started

- Plan your course with process, content, and product goals in mind
- Define and delimit course content
- Look over syllabi of other faculty members
- Think about general questions regarding your course that students may have
- Keep the syllabus somewhat flexible (different classes may move at a different pace), that is, you may indicate material to be covered weekly rather than per session, or you may provide a revised syllabus midway through the semester
- Include more rather than less material – a detailed syllabus is a valuable learning tool for students and lessens their initial anxieties about the course
- Distribute the syllabus the first day of class
- Bring extra copies the first few weeks of class
- As class progresses, note changes on the syllabus you would make in the future (e.g. topics that could not be addressed, new topics that came up during class)

##### Syllabus content

Basic information—course title, number, meeting time and location, your office location and office hours, your contact information (e-mail, phone number), teaching assistant contact information

Prerequisites – what knowledge, skills, or experience will be needed before students take the course; how students may refresh their skills

Overview of course purpose – introduction to subject matter, and its importance to students

Learning goals or objectives

Course format and activities

Course materials – if articles/book chapters/graphics need to be copied or included in the course packet, make sure to *obtain necessary permission from copyright owner* (publishing house or author) before duplicating any material

Course assignments, term papers, exams

Method of evaluation and grade assignment

Course policies – e.g. attendance, late assignments, cheating

Course schedule

Important dates – e.g. drop dates for course, exams, assignment due dates

Estimate student workload – how much time they should anticipate spending on various course activities

Supplementary material – e.g. how to study for the class, campus resources for tutoring and academic support, references on topics covered in the course

### Resources

Contributed syllabi for Social and Administrative Science Courses - developed by the Pharmacy Education Resource Network, The University of Mississippi:  
<http://www.olemiss.edu/programs/pharmednet/phadsyll.htm>.

Cornell Faculty Services – Teaching Materials:  
<http://www.clt.cornell.edu/campus/teach/faculty/TeachingMaterials.html>.

University of Illinois at Chicago – Standardized Syllabus Template  
[http://www.uic.edu/pharmacy/offices/oa1/epc/standardized\\_syllabus\\_template.htm](http://www.uic.edu/pharmacy/offices/oa1/epc/standardized_syllabus_template.htm).

Curzan, A. and Demour, L. *First Day to Final Grade: A Graduate Student's Guide to Teaching*. Anne Arbor:University of Michigan Press, 2000.

Royce, D. *Teaching Tips for College and University Instructors. A Practical Guide*. Boston:Allyn and Bacon, 2001.

McKeachie, W.J. *Teaching Tips: Strategies, Research, and Theory for College and University Teachers*. Massachusetts: D.C. Heath and Company, 1994.

Davis, B.G. *Tools for Teaching*. San Francisco:Jossey-Bass Publishers.

Grunert, J. *The Course Syllabus: A Learning-Centered Approach*. Bolton, MA:Anker Publishing Company, Inc.

## **2. Developing learning objectives**

Bloom's taxonomy is the most commonly used classification system addressing cognitive, affective and psychomotor objectives. The original taxonomy classifies cognitive learning into six levels of increasing complexity: knowledge, comprehension, application, analysis, synthesis and evaluation. The taxonomy has been updated and re-sequenced, from lower

order to upper order thinking processes: remember, understand, apply, analyze, evaluate, and create. (Krathwohl and Anderson, Eds, A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy, New York: Longman, 2001.) Additionally, the new taxonomy breaks down knowledge into four dimensions: factual, conceptual, procedural and meta-cognitive. The reader is referred to the Krathwohl and Anderson text for guidance in writing objectives using this framework.

## **B. Teaching Techniques**

### **1. Lecture (<http://www.utexas.edu/academic/cte/sourcebook/teachingmethods.html>)**

#### Overview

The primary purpose of a lecture is to deliver information to an audience. Learning is typically passive where the instructor speaks and students take notes and very little interaction occurs. It is most useful when delivering a large amount of information to a large class.

#### Preparation and organization

Preparation usually begins with researching the topic by using books, articles, colleagues, internet, etc. Once information has been collected, develop an outline of what will be covered. It may be necessary to conduct additional research after the outline is made. Continue to build the outline into a well-structured lecture.

#### Tips for enhancing effectiveness

- a. Provide an outline of the main points of the lecture to help students follow the development.
- b. Begin the class with a brief review of the previous lecture when lectures are sequential or with a question or example, which will interest the audience and relate the content to their own needs and experiences.
- c. Clearly differentiate major points from elaborations and explanations. Do this verbally (the next point is...), vocally (changes in voice pitch, tone, stance) and/or visually (write on board, put up new overhead).
- d. Use visuals to direct attention, but keep them simple if students are expected to copy them.
- e. Include unfamiliar terms, names or important references in a handout.
- f. Use concrete examples or analogies to illustrate general concepts whenever possible.
- g. Ask questions to check student understanding. Incorporate opportunities for student involvement as often as possible.
- h. Summarize the main points at the end.
- i. Be enthusiastic and interested in the material because enthusiasm is contagious and so is the lack of it.

### **2. Group discussion**

(<http://www.utexas.edu/academic/cte/sourcebook/teachingmethods.html>)

#### Overview

Group discussion is an exchange between instructor and students and/or among students on the current topic of concern in the course. It is an excellent alternative to the lecture, especially when higher order cognitive processes are desired, or when the students have some familiarity with the topic being discussed. The instructor's and/or student's questions should elicit student interpretations, opinions, and additional questions.

#### Preparation and organization

The instructor must develop questions to clarify the issues to be discussed; organize (e.g., randomly, by similar interest, skill level, etc.) groups to facilitate group discussion; assist with monitoring and facilitating group discussion, as well as summarizing the key issues.

#### Tips for enhancing effectiveness

- a. Be clear what the objectives of holding the discussion are and how it fits into the overall course.
- b. If possible, rearrange the seating to allow students to face one another and not make the instructor the focus of the group.
- c. If students need to prepare beforehand, provide them with appropriate materials and thought questions to guide their preparation.
- d. Ask open ended questions such as "why" or questions which have no one right answer.
- e. Avoid the temptation to answer your own questions if the students don't respond immediately. Give them time to think.
- f. Encourage students to speak by the way you respond when they do. Listen carefully and respond thoughtfully with praise and/or respect for their attempts.
- g. When the discussion strays or is being diverted, acts as a process consultant who describes what is happening and brings the group back to the central issue.
- h. At the conclusion of major topics or the end of the session, summarize what has gone on to bring the group to closure.

### 3. Problem based learning

Problem-based learning (PBL) is both a teaching method and an approach in educating students. It consists of carefully designed problems that challenge students to use problem solving techniques, self-directed learning strategies, team participation skills, and disciplinary knowledge. The links in this section describe the characteristics and objectives of PBL and the process for using PBL.

[Center for Problem-Based Learning](http://www.imsa.edu/team/cpbl/problem.html)

<http://www.imsa.edu/team/cpbl/problem.html>

[What is Problem-Based Learning?](http://www2.imsa.edu/programs/pbln/tutorials/intro/intro3.php)

<http://www2.imsa.edu/programs/pbln/tutorials/intro/intro3.php>

<https://chico.nss.udel.edu/Pbl/>

### 4. Case based learning

<http://www.utexas.edu/academic/cte/sourcebook/teachingmethods.html>

<http://tlt.its.psu.edu/suggestions/cases/casewhat.html>

Overview

Real life scenarios are provided to illustrate a general principle or problem solving strategy. This is a form of active learning, where students can apply their knowledge and utilize information from the case.

Preparation and organization

It is important to choose or develop a case that has: a "real-life" scenario, matches the course objectives, adequate information to address the issues, and multiple solutions.

Tips for enhancing effectiveness

- a. Since case studies are usually illustrating a process, make clear to the students what that process is and follow it closely in the case analysis, emphasizing each step.
- b. Select sample cases which will draw on the students' backgrounds or interests so that the real life consequences are clear.
- c. Be clear in your own course design what the objectives for using a case are so that those can be emphasized properly.
- d. If more than one case will be used, move from simple to more complex cases as the students become more adept at analysis.
- e. When directing the class with questions, avoid the temptation to answer your own questions if the students don't respond immediately.
- f. Be well versed in the case details and alternatives yourself before attempting to conduct a class discussion.

## 5. Instructional games

Instructional games are methods to incorporate active learning using a game format.

The following instructional game, "Management Jeopardy" was submitted by Noel Wilkin [nwilkin@www.olemiss.edu](mailto:nwilkin@www.olemiss.edu) and Joe Bonnarens from The University of Mississippi School of Pharmacy.

Prep Time: 4 hours

Classroom Time: 1 hour

Title: Management Jeopardy

Prior to the first exam in our Pharmacy Management and Business Methods class, we considered several ways to hold a review session that would actively involve the students, provide the students with some insight into the types of questions that might be asked, and relieve some of the anxiety that exists prior to the first exam given by an instructor with whom they are not familiar. We came up with "Management Jeopardy."

Based on the television game show (and popular board game), "Management Jeopardy" featured seven categories, with five questions each, based on the lectures given up to that point. Some of the categories included Location Analysis, Ownership Law, and a special (fun) category entitled Trivia/Current Events, which featured pharmacy school events and other unique information that came up during lecture. A sample of a Trivia "answer" was "The Home of the Characters found on all of Mr. Bonnarens' ties." (The correct response was "What is Walt Disney World.")

Each student was a member of a business team during the entire semester. Each team sat together for this activity. The rules were simple:

1. One team selected a category and dollar amount from the category board shown on the overhead projector. (Next year we hope to have this computerized.)
2. The answer was read aloud to all of the participants.
3. The first hand raised, which could be any person on the team, won the right to respond with the appropriate question. (Key Point: We invited other individuals from the department to help identify who raised his/her hand first and second since there were no lights or buzzers.) Remember - If the first team answers incorrectly or fails to answer in the form of a question, the second team with a hand up was offered the chance to respond.
4. Each team was allowed to have their notes out, however, an answer must be given no later than 10 seconds after selected to answer the question.
5. Each team's score was kept on the board at the front of the room. The "dollar" total that corresponded to each question, ranging from 100 to 500, was added to the team's score and then the team was asked to make another selection from the board.
6. A "daily double" was present and when a team selected that particular question, they were allowed to "bet" up to all of their accumulated "dollars" with the hope of doubling their current amount. If the question was missed, they lost the amount wagered and then were asked to make another selection.
7. For "final jeopardy", each team wrote the question on a piece of paper along with the amount of money wagered. These were all turned in before the question was revealed.
8. The team with the most "dollars" after the "final jeopardy" won. In case of a tie, there were several possible tie breaker questions.
9. The winning team received 5 bonus points that went toward their group assignment grade for the class. (Because of the participation and enthusiasm demonstrated by each student, they all received 5 bonus points.)

The game took one hour of a two-hour class period. The second hour was available to discuss specific questions that came up during the game, as well as other questions the students had regarding any of the materials covered to that point. The students found this format an enjoyable way to learn by way of review.

### Resources

Pharmacy Education Resource Network – maintained by Dr. Alicia Bouldin, The University of Mississippi: <http://home.olemiss.edu/~abouldin/>

Pharmacy Education Innovation Database, The University of Mississippi - <http://www.olemiss.edu/programs/pharmednet/innov.htm>

Noel Wilkin and Joe Bonnarens, The University of Mississippi School of Pharmacy - Management Jeopardy: [http://www.olemiss.edu/programs/pharmednet/test/phar\\_in6.html](http://www.olemiss.edu/programs/pharmednet/test/phar_in6.html)

Alicia Bouldin, The University of Mississippi - Happy Trails Wilderness Pharmacy Exercise [http://www.olemiss.edu/programs/pharmednet/test/phar\\_in22.html](http://www.olemiss.edu/programs/pharmednet/test/phar_in22.html)

Donna West – In the spotlight:  
[http://www.olemiss.edu/programs/pharmednet/test/phar\\_in21.html](http://www.olemiss.edu/programs/pharmednet/test/phar_in21.html)

Kennedy, D.H., Fanning, K.D., and Thornton, P.L. The Age Game: An Interactive Tool to Supplement Course Material in a Geriatrics Elective. *American Journal of Pharmaceutical Education*. 2004; 68 (5) Article 115.

## **6. Techniques to enhance student preparation**

Two-page response: Students pre-read text or article material and prepare a two page response to a situation in which the material content could be applied.

Brief presentation: Students may be assigned to prepare two overheads so that they can present the material, briefly, to the class.

Exam Questions: The instructor could ask students to submit, at the beginning of each class, three questions based on the material of the previous lecture. The answers to these questions should be the most significant take away points from the previous lecture. The incentive to the students would be that if the question is appropriate, it may be included on the exam.

“The Minute Paper” Example submitted by Ahmed H. Hikal [pchikal@olemiss.edu](mailto:pchikal@olemiss.edu), The University of Mississippi

Prep Time: 5 minutes

Classroom Time: 10 minutes

“The Minute Paper” consists of two questions:

1. What was the major point of the lecture?
2. What major question was left unanswered?

These questions are passed out at the beginning of the lecture, and collected at the end. Students may write their name only if they choose to. This is helpful in two ways:

1. It helps the shy students ask questions about what they did not understand, which they otherwise would be hesitant to ask in class.
2. It encourages the students to pay more attention to the lecture, if they have to write about the major point of the lecture.

Naturally, you should expect to get some funny, sarcastic, critical, or otherwise useless comments or questions, but, overall, it should be helpful.

Resource

The minute paper technique was presented in a keynote speech at the annual AACP meeting in Reno.

## **7. Laboratory techniques**

Laboratories or centers are designed to provide the students with opportunities to apply and integrate pharmacy knowledge with other technical skills.

## Pharmaceutical Care Laboratories/Centers

### Learning Areas

- a. Understand and practice universal precautions
- b. Understand and practice lab safety
- c. Conduct appropriate literature searches
- d. Understand and apply evidence-based medicine concepts
- e. Understand and apply pharmacotherapy concepts
- f. Prepare intravenous (IV) medications, chemotherapy regimens, new biotechnology agents, and other sterile products
- g. Prepare special dosage forms (e.g., compounding)
- h. Document calculations
- i. Understand how various laboratory instruments work

## Basic Sciences Laboratories

### Learning Areas

- a. Understand and practice universal precautions
- b. Understand and practice lab safety
- c. Conduct appropriate literature searches
- d. Understand how various laboratory instruments work
- e. Develop and apply an appropriate experimental design
- f. Understand and apply appropriate data collection techniques

## 8. Distance learning (see also Section C.2)

### Overview

Distance learning occurs when students and instructors are not physically present in the same location when the learning materials are being delivered. The most common types of distance learning are synchronous (instructor and students in class at the same time) and asynchronous (instruction occurs independently from when the students receive it).

### Preparation and organization

- a. Understand the different delivery methods employed in distance education
- b. Identify the delivery methods at your institution
- c. Familiarize yourself with latest technology

### Tips for enhancing effectiveness

- a. Observe experienced instructors, particularly as it relates to your area
- b. Meet with technicians, facilitators to learn about specific (camera angle, font size, use of media, what to wear etc.)

## 9. Collaborative learning

<http://www.utexas.edu/academic/cte/sourcebook/teachingmethods.html>

<http://www.oir.uiuc.edu/Did/Resources/Illini%20Instructor/collaborative.htm>

### Overview

Collaborative learning refers to educational activities in which students work together toward a common intellectual goal. The most common types of collaboration between students are: 1) small group discussion where students share views on an issue (can take place in or outside class); 2) group project or group report; 3) study groups; and 4) collaborative learning groups in which students reach consensus.

### Preparation and organization

When using collaborative learning, the instructor is not the primary information source, but mainly a facilitator and leader who: 1) develops assignments that facilitate discovery

and exploration of knowledge, 2) helps the students understand what is expected of them, and 3) helps keep the students actively engaged.

Tips for enhancing effectiveness

- a. Prepare very clear task directions in writing to be distributed and guide group work without the need for extensive instructor intervention.
- b. Allow the groups to function without your interference. They are to learn from one another and will not accept that responsibility if you exercise control too tightly.
- c. Have a sampling of the groups report back to the large group and use their reports to find commonalities and differences. These should then serve as the basis for further discussion.
- d. At the end of the session, summarize the group work and highlight main points to be learned from the activity. Tie the summary and main points as much as possible to the groups' own work.

## 10. Reflective journals

Overview

Reflective journals (also known as learning journals or learning logs), are reflections of observations and experiences that are recorded and used to analyse learning and self development. They are meant to help the learner perform self-assessments, critical evaluations, and goal-setting with the ultimate goal to help them learn more about themselves and enhance their self development.

Preparation and organization

- a. Journals can be “pen and paper” or electronic. If electronic, it is suggested that the pages be printed out and kept in a binder to create a cohesive journal.
- b. Journaling should be done on a consistent basis—usually a minimum of once per week.
- c. Students can journal about a lecture, reading, actual or hypothetical situations, or other issues relevant to the course.
- d. Provide students with a guiding or reflection questions to help them get started.

Examples of questions include:

- i. What did you find interesting about...?
- ii. What questions came to mind when you...?
- iii. What assumptions did you make when ...?
- iv. What was most surprising to you?
- v. What would you like to learn more about?
- vi. How did this experience (reading) impact or change your thinking?
- vii. What can you learn from this experience?
- viii. What should be done differently?

Tips for enhancing effectiveness

- a. Journaling can be private (only the student learner will have access) or public (shared with instructor and/or peers). If the journal is public, the student should have the option of keeping a separate private journal.
- b. If the journal will be “graded,” focus on the student’s exploration and self-reflection efforts and not spelling, grammar, formatting, etc.
- c. Reinforce to the student that the journal is primarily for their benefit and they will get as much out of it as they put into it.

Resources

Ballantyne, R, Packer, J. (1995). *Making Connections: Using Student Journals as Teaching/Learning Aid*, HERDSA, Australia.

Boud, D; Keogh R, Walker, D. (1995). *Reflection: Turning Experience into Learning*. Kogan Page, London.

Schn, D (1987). *Educating the Reflective Practitioner*, Jossey Bass, San Francisco.

Hubbs D, Brand C. The Paper Mirror: Understanding Reflective Journaling. *Journal of Experiential Education*;1995;28(1):60-71.

### C. Using Instructional Technology

Depending upon course location, enrollment size and the concepts to be communicated, the instructor may have access to a variety of audio and visual aids. It is important that new instructors identify the appropriate audiovisual support person at their School prior to course planning so that classroom needs and resources can be matched. It is recommended that new instructors schedule at least one “practice session” using the equipment in the teaching space prior to the first day of live instruction. Note that distance delivery has become increasingly popular in pharmacy schools and that technology that is ideal for one environment may not always “broadcast” optimally. In addition, student computer stations (i.e., students with laptops or PDAs in the classroom) may change the dynamic of the teaching environment. Some of the most common media used in classrooms are listed below. For a discussion of the relative advantages/disadvantages of each, see “Tools for Teaching,” by Barbara Gross Davis (Jossey-Bass).

#### 1. Classroom

- Chalk board
- White board (manual or electronic)
- Overhead projector or projection camera
- Slide and/or view projectors
- Video cameras
- VCRs
- DVD players
- Computers
- Internet access
- Web-CT, Blackboard, individualized course webpages
- Software (e.g., Word, PowerPoint, Excel, Access, Flash, etc.)

#### 2. Distance learning

Increasingly, schools and colleges of pharmacy are delivering coursework formerly taught live to one classroom of students as distance-based work taught to more than one group simultaneously. Delivery methods vary and tend to fall into two broad categories: Synchronous and Asynchronous. Coordination in time occurs in a synchronous distance learning environment, i.e., all students of a course and the instructor are in class at the same time, albeit in different locations. In an asynchronous learning environment, the delivery of the lectures occurs independently from when the students actually access the learning materials. Other distance-based techniques might use simulcast via the Internet and technology such as Wimba<sup>®</sup> or Podcasting. Sessions are often recorded to serve as a backup to the live technology. Resources describing the technology utilized in such sessions can be found at <http://www.campus-technology.com/> and *T.H.E. Journal*.

Although the technology (i.e., devices, equipment) for distance-based learning is becoming ubiquitous, the techniques (i.e., methodology, pedagogy) for developing effective distance-based instruction are not. Even teachers who are very effective in the live classroom can

struggle in cyberspace, so it is critical for the new teacher to receive training in this area before being asked to play a substantial role in distance delivery. One good reference describing this process is *Brown DG, Developing Faculty to Use Technology: Programs and Strategies to Enhance Teaching*. Anker Publishing: Bolton, MA (2003).

Unfortunately, the distance education movement itself is moving faster than pharmacy education's ability to train, so much of your experience in this area may be gained through painful, but exciting, trial-and-error. An excellent resource reviewing quality assurance guidelines in distance pharmaceutical education exists (*Hunter et al.*). Also, check your University webpage for links to campus-based resources (e.g., Center for Teaching and Learning or Office for Information Technology) and consider joining the *Sloan Consortium* (<http://www.sloan-c.org/>) and reviewing texts such as *Chapter 8: The Online Instructor's Point of View*, by Judy Donovan in *The Student Guide to Successful Online Learning: A Handbook of Tips, Strategies, and Techniques* by Ken W. White and Jason D. Baker for detailed information.

#### Resources

Hunter, TS, Deziel-Evans, L, Marsh, WA. *Assuring Excellence in Distance Pharmaceutical Education*. *American Journal of Pharmaceutical Education* 2003; 67 (3):1-25

#### **D. Role and Importance of Assessment**

The role of assessment is to monitor student learning and the achievement of an institution's educational goals and objectives.

Learners are evaluated for various reasons—to provide:

1. the learner opportunity to practice and to obtain feedback;
2. the instructor a measure of learner competencies prior to and post instruction;
3. the institution (and instructor) information to make a decision about promotion to the next level; and,
4. the institution (and instructor) data about whether or not the educational mission is being accomplished.

The first reason differs from the rest in that it supports the current view that students should learn from assessment, i.e., that assessment can be formative. The remaining reasons reflect a summative perspective, one of demonstrating competence and upholding accountability.

Angelo and Cross differentiate traditional from classroom assessment and provide various techniques for the latter. Their classroom assessment techniques provide students feedback on learning and are formative.

#### Resources

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## E. Student Outcomes Assessment

### Overview

Prior to assessing student outcomes, it is important to: develop learning outcomes, design activities to achieve the outcomes, implement the activities, and then assess the success. Below are several activities that can be implemented to assess learning outcomes:

#### 1. Classroom assessment techniques (CATs)

CATs are a type of in class formative assessment and can provide immediate feedback to the instructor regarding student comprehension of subject material. They are typically anonymous and ungraded and are used to help improve teaching or reinforce concepts.

Examples include:

- a. Paraphrasing—Students are asked to “paraphrase” or explain a concept in their own words, as they understand it.
- b. “Muddiest Point”—Students are asked to write down what was most confusing about the lecture.

#### 2. Direct measures

Direct measures provide documentation of what students learn through tangible evidence.

Examples include:

- a. Exams
- b. Homework
- c. Quizzes
- d. Papers
- e. Projects
- f. Presentations
- g. Portfolios

#### 3. Indirect measures

Indirect measures assess students’ perceptions of their own learning, competencies and deficiencies.

Activities include:

- a. Peer evaluations
- b. Self evaluation (reflection)
- c. Satisfaction surveys
- d. Focus groups
- e. Course evaluation

### Resources

Anderson, HM, Preface: A methodological series on assessment. *American Journal of Pharmaceutical Education*. 2005;69(1):81-83.

Anderson, HM, A review of educational assessment. *American Journal of Pharmaceutical Education*. 2005;69(1):84-100.

Anderson, HM, Moore, DL, Anaya, G, Bird, E. Student learning outcomes assessment: A component of program assessment. *American Journal of Pharmaceutical Education*. 2005;69(2):256-268.

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Alabama Dept of Education (2002). Developing multiple-choice questions. Available online at [http://web.utk.edu/~mccay/apdm/mchoice/mc\\_a.htm](http://web.utk.edu/~mccay/apdm/mchoice/mc_a.htm) <accessed 6/22/07>.

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## F. Grading

Grades are the final evaluation of student achievement and can determine the final outcome for students in terms of graduation, scholarships, recognition, as well as employment. It is imperative that all grading be fair, accurate, consistent, and justifiable. It is important to have a grading philosophy and a grading scheme. See below for web links.

<http://www.utexas.edu/academic/cte/sourcebook/grading2.pdf>

<http://www.utexas.edu/academic/cte/sourcebook/grading.pdf>

<http://www.utexas.edu/academic/cte/sourcebook/tests.pdf>

### 1. Grading philosophy

- a. Identify and discuss various grading philosophies
- b. Describe the difference between evaluating students based on the knowledge level (criterion-referenced) or by a “normal” standard (norm-referenced)

#### **Criterion-referenced evaluation**

Criterion-referenced evaluation compares student performance to some “criterion” or standard set by the instructor. Each student is compared to the criterion separately. For example, if the criterion for passing a course is 70, all students who make 70 or above are considered “passing.”

### Norm-referenced evaluation

Norm-referenced evaluation compares each student to other students in the class based on a “normal curve.” Where students fall on the curve determines their final grade.

- c. Discuss “contract grading” (faculty and student develop a written contract)

## **2. Grading scheme**

To be fair, accurate, and consistent, it is important to develop a good grading scheme as a template for evaluating student performance. This grading scheme may vary depending on the type of items (e.g., true/false, multiple choice, short answer, essay, presentations, etc.) included in assignments and/or examinations.

- a. Describe how to allocate points for various types of questions and assignments.
  - i. Points should be allocated based on the level of difficulty of the question as well as the question format (e.g., true/false, multiple choice, short answer, essay).
  - ii. Point allocation for true/false and multiple choice questions are usually straightforward—the student receives the points allocated if the correct response is chosen and zero points for an incorrect response. In some cases, partial credit may be given with specific types of multiple choice questions.
  - iii. Point allocation with short answer and essay questions can be established both prior to grading and after grading a sample of papers. It is a good idea to establish the grading scheme *a priori*, and perhaps modify it based upon reviewing several papers to get a “range” of acceptable responses. Once the grading criteria are established, make sure that all papers are graded according to that standard. It is also helpful to document on the paper why points were deducted.
  - iv. Point allocation for presentations should be developed *a priori* with criteria to make the assessment as objective as possible. For example, if a student is graded on “eye contact”—it should be clear the number of points allocated and how to allocate the points. This is very important when several graders are involved with assessing students.

## **3. Reading and interpreting item analysis**

Although an instructor attempts to develop an examination that accurately and fairly assesses student achievement, item analysis is an objective measure that may provide insight into how well the test, as well as the students performed. Most Universities offer test scoring services for multiple choice and true/false examinations. These services will typically include detailed item analyses.

The following was adapted from: Dr. David J. McCaffrey III, [davidjm@olemiss.edu](mailto:davidjm@olemiss.edu), The University of Mississippi <http://www.rx.olemiss.edu/courses/tasupport/itemanalysis/>

### **Test-item analysis**

Item analysis examines how the assessment items perform overall. Item analysis “investigates the performance of items considered individually either in relation to some external criterion or in relation to the remaining items on the test.” These analyses evaluate the quality of items and of the test as a whole. As a result, in addition to assessment score adjustment, such analyses can also be employed to revise and improve both items and the test as a whole.

- e. Preparation
  - i. Data entry and manipulation  
Depending upon one=s circumstances, item analysis can involve data entry and analysis or data transformation and analysis. Below are explanations for each situation, using Scantron and hand grade as examples.

### Scantron

For those of you who use the University's scanning capabilities, an electronic copy of the data is available to save on a diskette in addition to the printed information about the exam. This information can be uploaded into a spreadsheet program (e.g., Excel) for manipulation and analysis. Make a backup copy of the raw data from the Scantron.

Across the top of your spreadsheet you will find the score, and the results for each of the questions on the assessment. Using the find and replace function (column being selected) and the answer key from the exam replace all of the incorrect responses with a 1 and replace the correct (or all of the correct responses) with a 0.

#### Hand-graded

For those of you who choose to hand grade your exams, data must be input into some program that will allow for analysis (e.g., Excel). Create a spreadsheet with columns that represent the students' raw score and each of the questions on the assessment. The data is input from left to right with each new student being a new row.

#### b. Difficulty

Difficulty level =  $\frac{\# \text{ of students choosing correctly}}{\text{total \# of students}}$

Items should have an appropriate difficulty level. It is believed that assessment items should be neither too difficult nor too easy. Between 30% and 85% of examinees should answer correctly. If the item is too hard or too easy it contributes relatively little toward ranking examinees according to their knowledge. Few faculty members will apply corrective action to questions where a large percentage of the students answer it correctly. However, when a relatively low percentage of students answer a question correctly, further analysis is required before it can be determined that it is, in fact, a poor question. Because the data set is coded with 1's corresponding to incorrect answers, a simple sum of the columns will accomplish this goal. Discrimination analysis should only be performed on those questions that meet your defined criteria (e.g., questions where <50% of the class got the correct answer).

#### c. Discrimination

In addition to being concerned with the appropriate level of difficulty in our assessments we are also concerned with how well questions separate the prepared from the not-so-prepared. In other words, items should have some power of discrimination. A good item will be answered correctly more often by students who scored well on the exam overall and less often by students who scored poorly. Therefore the item functions to discriminate those who knew the content and those who found the answer in some other way.

Discrimination Index: This is an indication of how well an item (question) discriminates between high and low scoring students. To this end, you want a question that is answered correctly by the most knowledgeable students, and answered incorrectly by the least knowledgeable students, the discrimination index ranges from -1.0 to +1.0, where +1.0 is the ideal. Any item which did not discriminate between the lower and upper group of students would have a DI=0. For practical purposes, the index should be no less than +0.3 for good items. If your University provides detailed item analyses, this index may appear as R (IT) or item to total correlation.

The discrimination index is affected by the difficulty of an item, because by definition, if an item is very easy, everyone tends to get it right and it does not discriminate. Likewise,

if it is very difficult, everyone tends to get it wrong. Such items can be important to have in an assessment because they help define the range of difficulty of concepts assessed. Items should not be discarded just because they do not discriminate.

Are there any items with a negative discrimination index (DI)? That is, items where students in the lower third of the group did better than students in the upper third of the group?

Was this a deceptively easy item?

Was the correct answer key used?

[As a rule of thumb, I only subject questions to a discrimination analysis that have exceeded my personal difficulty threshold (.50). You may choose a threshold that is lower or higher, but in each case it will influence the results of your analysis.]

d. Overall score adjustment

How does one “credit back” students for items that did not meet expectations?

There are several ways one can handle this issue. I choose to adjust the numerator for ALL students, not just those who got it wrong. My belief is that although the question did not meet expectations, I do not want to penalize students who did get it right the first time. Secondly, this method only requires an adjustment in the course gradebook (spreadsheet) and is much less time consuming than the alternative.

Resources

Crocker, L., and Algina, J. (1986). Introduction to classical and modern test theory. New York: Holt, Rinehart and Winston.

Davis, B.G. (1993). Tools for teaching. San Francisco: Jossey-Bass.

Gronlund, N.E., and Linn, R.L. (1990). Measurement and evaluation in teaching (6th ed.). New York: MacMillan.

Pedhazur, E.J., and Schmelkin, L.P. (1991). Measurement, design, and analysis: An integrated approach. Hillsdale, NJ: Erlbaum.

Sax, G. (1989). Principles of educational and psychological measurement and evaluation (3rd ed.). Belmont, CA: Wadsworth.

Thorndike, R.M., Cunningham, G.K., Thorndike, R.L., and Hagen, E.P. (1991). Measurement and evaluation in psychology and education (5th ed.). New York: MacMillan.

#### **4. Grade Records and Appeals**

Maintaining good records, keeping copies of original work, and treating students equitably will assist with the determination of what has happened and deflect charges of unfair treatment.

- a. Develop a method for assigning grades, recording grades, and tracking student progress in a class. Include safeguards for preventing clerical and calculation errors. The students should be familiar with software available for grade calculations as well as statistical outcomes.
- b. Develop an approach for responding to a complaint that the grade a student received is not correct. Graduate students should learn how to listen to a complaint without getting defensive, identify simple causes such as a clerical or calculation errors that resulted in an incorrect grade, and if no error actually exists, listen to the student and answer their questions.
- c. Describe how the grade appeals process works at their institution.
- d. Determine the requirements for maintaining electronic grades and/or paper examinations. Some schools require that records be maintained for one year or more.

### **III. Other Issues Related to Teaching**

#### **A. Classroom Policies/Etiquette/Decorum**

In order to foster a rich and productive learning environment, it is important to establish rules regarding classroom decorum. This will vary based on each instructors' preferences and teaching styles.

1. Discuss pros and cons of various aspects of classroom decorum. The following are examples of areas to cover.
  - a. Attendance
    - i. Describe the pros and cons of class attendance.
 

Some instructors feel that attendance is necessary for the student to get the most out of class. Some courses rely heavily on lecture information, which is provided only in the classroom, and not in textbooks or other reference materials. In this case, it may be vital that a student attend class. Other instructors feel that attendance is at the discretion of the student.
    - ii. Discuss methods for improving class attendance.
 

Some instructors "reward" class attendance with pop-quizzes and extra credit points.
    - iii. Describe various methods for taking class attendance.
      - Make it clear in both the syllabus and in class your position on classroom attendance. If attendance is mandatory, have some objective method for taking attendance (e.g., roll-call, attendance sheet, etc.).
      - Make sure to have a clear definition of attendance. For example, if a student arrives 15 minutes late or leaves 15 minutes early, does that count as "in attendance?"
      - Make sure to inform the student of the consequences of not attending class.
    - iv. Discuss how to incorporate class attendance into the final grade.
  - b. Behavior
 

Make it clear in both the syllabus and in class (preferably the first class) what your expectations are regarding late arrivals, early departures, sleeping, reading the newspaper, studying for other classes, talking, writing notes. Establishing guidelines and providing them upfront can help avoid embarrassing confrontations between students and faculty.

    - i. Describe various aspects of student behavior and how they affect the learning environment.
    - ii. Describe ways to establish a good learning environment.
    - iii. Describe ways to modify student behavior in the classroom.

c. Respect

Every student has the right to learn as well as the responsibility not to deprive others of their right to learn. Respect in the classroom should be a two-way street. Foster an environment of respect among the class by establishing rules related to disruptive behavior and by conducting yourself in a respectful manner.

i. Describe ways to establish respect among students.

ii. Describe ways to give respect to students.

iii. Describe ways to show respect for other instructors.

Instructors should show respect for other instructors by vacating the classroom at the end of their assigned class period to provide the next instructor with adequate time to prepare. Leave the room in its original condition and report and equipment failures or problems.

## B. Student Issues

### 1. Disabilities

a. Familiarize students with the laws pertaining to disabilities

The Rehabilitation Act of 1973 and the American Disabilities Act of 1990 defines disability as a physical impairment that substantially limits one or more of the major life activities (e.g. walking, seeing, hearing, speaking, breathing, learning, working or taking care of oneself). The purpose of these acts is to provide a clear and comprehensive mandate for the elimination of discrimination against individuals with disabilities.

The Individuals with Disabilities Education Improvement Act (IDEA) reauthorization of 1997 indicates that all students regardless of their abilities must be provided the opportunity to become involved with and progress in the general education curriculum. Amendments were made in 2004 (see US Department of Education).

b. Discuss how various disabilities may affect the learning process.

Different disability conditions need different Instructional Strategies. Some impairments are more visible than others.

i. Vision Impairment: Only two percent of the people with vision impairment are totally blind, most blind people have some amount of usable vision.

General Considerations: Provide vision-impaired students with materials in alternative formats at the same time that the materials are given to the rest of the class. The students must advise regarding the preferred format for receiving information: large print (e.g., Geneva 18 point, bold), Braille, notetaker, tape, etc.

Other types of assistance are also helpful, such as: front row seat, or altered pace, or modified presentation of material.

ii. Hearing Impairment: It is important to understand the three types of hearing loss: conductive, sensorineural, or mixed. Remember that the inability to hear does not affect an individual's natural intelligence.

General Considerations: Because visual information is a deaf student's primary means of receiving information, films, overhands, diagrams, sign language, and other visual aids are useful instructional tools.

iii. Mobility Impairments: Mobility impairments range from limitation on stamina to paralysis. A physical disability is often separate from matters of cognition. It does not imply that a student has difficulty with intellectual functioning.

General Considerations: Physical access to a class is the first barrier a student with mobility impairment may face. Make sure that the accommodations are in place.

iv. Systemic Disabilities: These are conditions affecting one or more of the body's systems. These include respiratory, immunological, neurological, and circulatory systems. Students affected by systemic disabilities differ from those with other

disabilities because of their instability. Therefore, the need for and type of assistance may also change.

General Considerations: These disabilities often require instructional strategies similar to those used for other disability conditions.

- v. **Psychiatric Disabilities:** The National Institute of Mental Health estimates that one in five people in the US have some form of psychiatric disability, but only one in five persons with a diagnosable disorder ever seeks treatment. Some common psychiatric disabilities are: depression, bipolar disorder, anxiety disorders, and schizophrenia.

General Considerations: Common assistance for students with these disabilities are: exam modifications, alternative methods for completing assignments, taped lectures, study skills and strategies training.

- vi. **Learning disabilities (LD):** They are neurological-based conditions that interfere with the acquisition, storage, organization, and uses of skills and knowledge. They are identified by deficits in academic functioning and in processing memory, auditory, visual, and linguistic information. These disorders are not the same as mental retardation or emotional disorders.

General Considerations: Assistance for this group is similar to other disabilities such as: taped lectures, notetakers, print format, study skills, early syllabus, etc.

- vii. **Attention Deficit/ Hyperactivity Disorder (ADHD):** This is a persistent pattern of inattention or hyperactivity /impulsive where students have difficulty concentrating on and completing tasks, frequently shifting from one uncompleted activity to another.

General Considerations: Keep instructions brief and straightforward. Use more than one method to demonstrate or explain information. Allow time for clarification of directions and essential information.

- c. Describe resources available for students with disabilities

Work in conjunction with the appropriate University department in providing accommodations and support services, in a fair and timely manner, to students with disabilities.

On each University campus, there is an office designated to provide services for people with disabilities, through which documentation of disability and determination of reasonable accommodations are provided. For assistance regarding any concerns about disability, students/faculty/staff should contact the Disability Services Office on their campus.

- d. Describe the procedure for working with students with disabilities.

Although the laws are the same, the manner in which services are provided for the disabled may vary from institution to institution. It is the responsibility of TAs/faculty/staff to contact the services at their own University to be sure that they are following the rules of their institutions.

Although in most cases students should initiate the discussion regarding their disability, TAs/faculty/staff are encouraged to establish a welcoming environment for students who are reluctant to self-advocate. Faculty must include a Disability Access Statement on the Syllabus.

## **2. Personal issues**

In some cases, students may not have a documented disability, but may be experiencing other problems, which could affect their academic performance.

- a. Describe various types of personal problems.

These problems may include family issues, health problems, financial difficulties or crisis situations. Although these issues are difficult to address, the student needs to feel comfortable to share this information. The TAs/faculty/staff need to demonstrate genuine interest in these matters, and advise the student or refer them to the appropriate office for assistance. A list of various services for students should be included in the student orientation packet.

- b. Discuss how various personal problems could be handled.  
Make an assessment of the student's problem and determine whether it can be handled on a one-one basis or if the student needs to be referred to staff or counselors that may be better able to assist them. A list of services and personnel involved should be made available to students. In some instances, the Associate Dean for Students is the person in charge of following-up with the student.
- c. Describe how to refer students to appropriate agencies and personnel.  
If it is determined that the student needs a referral, assist the student by identifying a specific person that the student should talk to. Different institutions may have their own policies for this process. It is important to inquire with the appropriate personnel so that actions taken are within the Universities guidelines.
- d. Discuss the importance of confidentiality  
Colleges/Schools must be committed to ensuring that all information regarding students' issues of any source is maintained as confidential as required by the institution's regulations.

### 3. Academic issues

Some students encounter academic problems at least once during their academic career. Faculty are an important resource to help students identify their problems, as well as provide them with resources on how to overcome their academic issues.

- a. Describe ways to help students identify academic issues/problems.  
Some students have difficulty in sharing their academic issues, because they view these difficulties as weaknesses or failures. The first step is to change that mentality and help students understand the importance of recognizing these issues early. Students have different learning styles and they may need assistance with how to best utilize or modify their study habits.
- b. Describe ways and resources available to help students overcome academic issues/problems.  
Many institutions have learning resource centers available to students to help with problems related to understanding subject matter, study habits, reading comprehension, test anxiety, etc.  
Faculty/TA could offer additional office hours or tutorial sections. Some students may benefit from a study team (group) approach. It is important to recognize that academic issues might be the result of a disability that the student may or may not be aware of.

### C. University Policies and Procedures (related to teaching)

While the actual policies and procedures may vary from institution to institution, the underlying concepts and concerns are universal. The graduate student should receive general information about these topics as well as information specific to the university in which they are enrolled. Many of the issues in this section underscore the importance of maintaining good records and treating all students equitably.

#### 1. Cheating and Academic Honesty

Issues related to teaching and academic dishonesty must be in line with University and College policies. Since it is difficult to cite types of cheating that may occur, graduate students may want to have a discussion with other faculty regarding this issue. The most important point is to be prepared with ways to handle various situations.

- a. Since behavior that is considered "cheating" may actually vary with instructional and assessment methods, the graduate student should be aware of circumstances in which a given behavior such as sharing information is and is not cheating. Behaviors once thought to be cheating, such as working with classmates on an assignment, may now be considered appropriate and desirable behavior.
- b. Know how to confront someone who is cheating or suspected of cheating. It is often important to keep original copies of the material and maintain confidentiality when investigating a potential cheating incidence.

- c. Know how to handle related issues such as finding out that some students have access to copies of old tests or receiving a complaint from a student that another student is cheating.
- d. Define plagiarism, provide examples, describe how to spot it, and outline the usual means for dealing with students who do it. (Many on-line sources with information about plagiarism, including electronic forms, may be found using “plagiarism” as a search term.)
- e. Explain the concept of campus disciplinary and grievance processes and boards. Graduate students should be aware of how their department and school handle such behavior and when and how to use campus resources.
- f. If the University has an Honor Code, the student should familiarize himself with the policies and procedures regarding the code.
- g. Describe research integrity - another form of academic honesty and how campuses deal with dishonest research. For excellent overview and discussion, see *On Being A Scientist: Responsible Conduct In Research* by the National Academy of Sciences at URL: <http://www.nap.edu/catalog/4917.html>  
(NOTE: Full text is available on-line)

## 2. Students' Rights

Students' rights and responsibilities are often listed in the college catalog or some other centrally-distributed information source.

- a. Describe students' rights and responsibilities at their institution
- b. Describe methods for ensuring that students are aware of their rights and responsibilities
- c. Discuss how faculty and TAs are in a position of power relative to the student and describe how faculty/TAs should behave to avoid violating students' rights and to maintain professional boundaries.
- d. Define confidentiality and discuss what types of information should be held confidential.

## 3. Faculty Rights

Faculty rights and responsibilities are most likely listed at a Human Resources Department or within an academic department. New faculty should receive this information at the start of their new job, but if this information is not provided, the new instructor should meet with the appropriate personnel (typically the department chair or associate dean) for this information. At minimum, faculty should be provided with (and should not hesitate to ask for) the following:

- a. Explanation of what “academic freedom” means at their institution.
- b. Description of the grievance process on their campus for faculty with complaints of violations of their rights.
- c. Description of faculty's rights and responsibilities on their campus. These may include:
  - i. To be treated respectfully
  - ii. To have a safe working environment
  - iii. To have access to information about promotion and tenure
  - iv. To have an opportunity to fulfill their research, teaching, and service duties
  - v. To have representation in decision-making bodies on campus
- d. Information about disability services and policies within the School/University. These policies are crucial for driving responses to student requests for accommodation during lectures, exams, etc.
- e. Information about a School or University ombudsman to which concerns can be addressed.

## **D. Instructor Evaluations**

Many universities and schools will have their own instruments that faculty are encouraged or required to use. Feedback from students is useful for revising a class or instructional methods. It may also be used as part of the annual faculty performance evaluation, as well as promotion and tenure.

### **1. Evaluation Forms**

Check University, College/School, and Departmental guidelines regarding instructor evaluations and their administration.

- a. Student evaluation forms should include a combination of both close and open-ended items.
  - i. An instructor can develop items for the evaluation, but there often is question of reliability and validity. Resources are available at many institutions to help in the selection of items. An example is the PICES Item Catalog at Purdue University, which contains over 600 items for instructors to utilize ([www.cie.purdue.edu/search/files/catalog.pdf](http://www.cie.purdue.edu/search/files/catalog.pdf)).
  - ii. At a minimum, close-ended evaluation items should be included from the following areas: structure of course, feedback from instructor to students, group interaction, instructor-student rapport, workload, and impact of course/instructor on students.
  - iii. A 5 or 7-point Likert scale is generally used for students to rate each close-ended item.
  - iv. Open-ended items should be designed so that they are narrowly focused. For example, asking a student what he likes least or most about the course can result in comments regarding course content, but also how the professor dresses or his hairstyle. Instead, the goal of these items is to provide feedback to help improve the course and should focus on what the instructor does and how it can be done differently. These items should be considered an “idea” generator for the instructor.
  - v. Although not common, checklist and inventories can be used to evaluate the course. These are close-ended items, but do not use a rating scale. The focus is on the presence or absence of identified behaviors of the instructor or activities in the course.
- b. When administering course evaluations, the following procedures should be observed:
  - i. Announce when the evaluation will take place. It should be during a “normal” time, usually during the last 2 weeks of the course. Major event times should be avoided, such as exam time (before and immediately after) and the return of major projects.
  - ii. Explain the purpose of the evaluation and how it will be used.
  - iii. Do not be in the room during the evaluation. If an online evaluation is not used, a student should be selected to collect the evaluations and to return them to the appropriate representative (not the instructor). A departmental staff member could supervise the administration and collection of the evaluations as well.
  - iv. Have students complete evaluations anonymously.
  - v. Provide adequate time for completing the evaluations, especially when open-ended items are being used.
  - vi. Do not look at evaluations until final grades have been submitted.
- c. Mid-Semester Evaluations: Student evaluations usually are administered at the end of the term or semester. Some instructors, however, administer an informal mid-semester evaluation so that changes can be made or student issues can be addressed during the current course offering. Close-ended items can be used for this evaluation, but open-ended items frequently are used.

- d. Small Group Instructional Diagnosis (SGID) is an evaluation process in which a neutral third-party facilitator meets with students to obtain feedback about the course and instructor. These often are conducted during a class session mid-way through the semester and require 15-30 minutes. In this evaluation process, students are arranged into small discussion groups and address the strengths of the course and suggestions for improvement. The discussion groups report during the class session and a summary is provided to the instructor.

## 2. Interpretation of Evaluations

Describe how to interpret quantitative and qualitative data collected in teaching evaluations used at their school.

- a. Determine the response rate. The desired response rate for course evaluations is 75-80 percent. If the response rate is lower, results should be interpreted cautiously, especially when used for promotion and tenure decisions.
- b. Calculate descriptive statistics for the evaluation report. Depending upon your institution, this report should contain: 1) frequencies/percentages of student ratings for each item; mean, mode, and/or median; standard deviation, and departmental norms or other types of comparison norms.
- c. Evaluate the data. What is the range of the data for each item and are there any clusters? What is the standard deviation? A standard deviation of less than 1 indicates that there is relative agreement on an item among the students. A standard deviation of 1.2 or greater indicates disagreement among class members. What are your highest and lowest rated items? Can you identify why these items were rated in such a way? For a low-rated item, what can be changed to address the issue?
- d. Summarize the open-ended comments. Examine for trends and try not to dwell on specific negative comments. Data from open-ended comments are helpful to spot problems or generate ideas. A grid can be devised to determine the comments between students who highly rate the course and students who rate the course lower.

## 3. Setting Teaching Goals (based on evaluations)

Describe how to set teaching goals for a course then collect information to determine whether the goals were met.

- a. When designing a course, overall goals should be identified in the course syllabus. Course evaluations can include a component where students can assess whether they felt these goals were met. Both close and open-ended items can be used. If using open-ended items, make sure they are written in way that narrowly focuses the question.
- b. A pre/post assessment can be given to determine if students met the goals of the course.
- c. A variety of assessments can be conducted throughout the semester to determine where the students are in terms of the goals. Many of these assessments are discussed in this document.
- d. A project or exam can be assigned so that students can demonstrate whether the goals for the course were met. For example, in a program evaluation course, have the students develop a disease management program that includes an assessment plan.

## E. Supervising Graduate Students (to be completed)

It is very likely that the graduate students will already have their own ideas about how graduate students should be supervised, so it may be very informative to let them start this discussion.

### 1. Describe how they will mentor graduate students when they are faculty members.

The description should include:

- a. How to keep graduate students on track
- b. How to promote learning
- c. What to do when the graduate student is struggling to learn concepts
- d. How to recognize graduate students' efforts, successes, and failures

2. **Describe how faculty may serve as role models for graduate students**
  - a. Identify ways to include graduate students in collegial discussions and brainstorming sessions
  - b. Identify characteristics that should be modeled
3. **Contrast and compare how different faculty at the institution currently prepare graduate students for various aspects of their future careers (including research and teaching)**

## **F. Multicultural Education: Preparation for Diverse Students**

### Definition

Banks and Banks (1995) define multicultural education:

"Multicultural education is a field of study and an emerging discipline whose major aim is to create equal educational opportunities for students from diverse racial, ethnic, social-class, and cultural groups. One of its important goals is to help all students to acquire the knowledge, attitudes, and skills needed to function effectively in a pluralistic democratic society and to interact, negotiate, and communicate with peoples from diverse groups in order to create a civic and moral community that works for the common good." (p. xi)

"Multicultural education not only draws content, concepts, paradigms, and theories from specialized interdisciplinary fields such as ethnic studies and women studies (and from history and the social and behavioral sciences), it also interrogates, challenges, and reinterprets content, concepts, and paradigms from the established disciplines. Multicultural education applies content from these fields and disciplines to pedagogy and curriculum development in educational settings. Consequently, we may define multicultural education as a field of study designed to increase educational equity for all students that incorporates, for this purpose, content, concepts, principles, theories, and paradigms from history, the social and behavioral sciences, and particularly from ethnic studies and women studies." (p. xii)

### Why it's important?

Pharmacy schools' student populations, both graduate and professional, are often composed of individuals from diverse backgrounds. This diversity leads to a melting pot of beliefs, attitudes, ideals, social norms, customs, and languages; all of which should be integrated into pedagogy.

### Guidance

Use caution when subscribing to the cultural deprivation/disadvantaged paradigm, for it is based upon a tenet which positions the White middle-class cultural expression as the normative or the correct way of being in school and society and leads to a system of inferiority (Ladson-Billings, 1999).

Approaches to raising academic achievement (Ladson-Billings, 1999)

1. Acceleration or remediation without regard to students' social or cultural background
2. Facilitate learning by building on students' own knowledge, experience, and social and cultural background

Keys to navigating a multicultural classroom (Hollins & Oliver, 1999)

1. Cultural awareness – become familiar with the cultural make up of your educational environment

2. Draw from the culture of your students to develop a comfortable and supportive learning context and meaningful curriculum content and pedagogy
3. Deliberate and systematic inquiry and reflection

## References

Banks, J.A., & Banks, C.A.M. (Eds). (1995). Handbook of research on multicultural education. New York: Macmillan.

Hollins, E. R., & Oliver, E. I. (Eds). (1999). Pathways to Success in School: Culturally Responsive Teaching. Mahwah, New Jersey: Lawrence Erlbaum Associates.

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## IV. How to “Teach” Teaching Skills

Many new faculty spend a lot of time on A—building the knowledge base, but not enough time on B & C—how to effectively deliver the information. Learning how to teach and addressing students learning needs is as important as the content or knowledge.

### A. Build a knowledge base

1. Students should build a knowledge base in the area in which they teach.

### B. Review Teaching Skills concepts

1. If available, take one or more courses that are focused on course development or teaching skills.
2. There are many resources (e.g., textbooks, articles, and websites) available to help improve teaching. A starting place for identifying these resources is the References and Resources section at the end of this document as well as those identified in its various sections.
3. Send graduate students to teaching seminars offered by a campus teaching development center (e.g., a university of college center for teaching and learning).
4. Encourage graduate students to observe several different professors teach and discuss their observations.
5. Attend conferences that are focused on education topics.

### C. Practice Teaching Skills concepts

1. Examples of “practice activities” to have students complete:
  - i. Develop a class syllabus and lecture outline.
  - ii. Write objectives for a lecture topic.
  - iii. Design active learning activities that match the lecture topic and teaching objectives.
  - iv. Give a practice lecture and have faculty directly observe and discuss the graduate student’s teaching.
  - v. Videotape the lecture and have the student evaluate the lecture and discuss with faculty mentor.
  - vi. Write and evaluate exam questions using a variety of formats.
  - vii. Develop a writing assignment and grading criteria.
  - viii. Demonstrate the use of A-V/technical equipment
2. Give graduate students teaching assistantships so that they can practice what they have learned. If possible, vary the assignments so that students get a variety of teaching experiences.

## **V. Developing Teaching Portfolios**

A teaching portfolio is a factual description of a professor's teaching strengths and accomplishments. It includes documents and materials, which collectively suggest the scope and quality of one's teaching performance. Teaching portfolios come in a variety of formats, and can be either paper or electronic. They are commonly 6-8 pages plus appendices and include both subjective materials (e.g., your teaching philosophy) and objective materials (e.g., a list of courses you have taught or TA'd, student evaluations, peer evaluations). Teaching portfolios can provide you with the needed structure for self-reflection about areas needing improvement and can be a tool to help chart your growth over time as a teacher. They also present hard evidence and specific data about your teaching effectiveness for hiring, performance evaluations, and promotion/tenure decisions. For more information about how to develop a teaching portfolio, please see resources below.

### Resources

Seldin, Peter. 1997. *The Teaching Portfolio: A Practical Guide to Improved Performance and Promotion/Tenure Decisions*, 2nd ed, Anker Publishing

Journal on Excellence in College Teaching, 1995:6(1) special issue devoted to teaching portfolios  
<http://www.rx.olemiss.edu/portfolio> (website from previous AACCP presentation)

## **VI. Ethics and Etiquette of Teaching (to be completed)**

For this section—we struggled with what components to include and felt that most were necessary, but not sure how to include them. Below are some suggested topics that need further exploration.

- A. Providing Constructive Criticism (professors, students)
- B. Conflict resolution e.g., with students in the classroom, other faculty, exam issues, assignments, etc.
- C. Establishing boundaries/relationships with professional and graduate students  
Several issues were raised regarding setting personal boundaries with students regarding personal issues, displays of affection (hugs, etc.), professional vs. friendly relationships, etc.

## VII. Resources

### A. Campus resources for teaching

### B. AACCP resources for teaching

### C. Recommended references and sources

#### 1. Print articles:

Hurd, P. *Active Learning*. J. Pharm Teaching 2000;. 3:29-47.

Kassebaum, D.G. The measurement of outcomes in the assessment of educational program effectiveness. *Acad. Med.* 1990; 65:293-96.

Marsh, H.W., Roche :.A. Making students' evaluations of teaching effectiveness effective: The critical issues of validity, bias, and utility. *Am. Psych.* 1997; 52(11):1187-97.

Speer, A.J., Elnicki, D.M. Assessing the quality of teaching. *Am. J. Med.* 1999;106(4):381-84.

Terenzini, P.T. Assessment: What it is and what it isn't. *ADE Bull.* 1993; 104 Spring: 14-17.

Vernon D.T.A., Blake, R. L. Does problem-based learning work? A meta-analysis of evaluative research. *Acad. Med.* 1993;68:550-63.

#### 2. Books and Selected Text:

Bligh, D.A. *What's the Use of Lectures?* San Francisco: Jossey-Bass (2000).

Bonwell, CC and Eison, JA. *Active Learning: Creating Excitement in the Classroom*. ASHE-ERIC Higher Education Report #1. Washington DC.: The George Washington University , School of Education and Human Development, (1991).

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Course P.L., McInerney, K. H. *Assessment in Higher Education: Politics, Pedagogy, and Portfolios*. Westport, CT: Praeger (1993) pp.68-69, 83-85.

Cuban, L. *How Scholars Trumped Teachers*. New York: Teachers College Press (1999).

Davis B.G. *Tools for Teaching*. New York: Jossey-Bass (1993).

Gibbs, G and Jenkins, A. (eds.). *Teaching Large Classes in Higher Education*. London: Kogan Page (1992).

Lowman, J. *Mastering Techniques of Teaching*. San Francisco: Jossey-Bass (1984), p.6-21.

*McKeachie's Teaching Tips: Strategies, Research, and Theory for College and University Teachers*. 10<sup>th</sup> Ed. W.J. McKeachie (Ed.). Boston: Houghton Mifflin (1999).

Millis, B.J. and Cottell Jr., P.G. *Cooperative Learning for Higher Education Faculty*.

Theall, M. and Franklin J. *Student Ratings of Instruction: Issues for Improving Practice*. San Francisco: Jossey-Bass (1990).

Walvoord, B, Anderson, V. *Effective Grading, A Tool for Learning and Assessment*. San Francisco: Jossey-Bass (1999).

Weimer, M. *Improving College Teaching*. San Francisco: Jossey-Bass (1990).

White, KW and Baker, JD. Chapter 8: The Online Instructor's Point of View, by Judy Donovan in *The Student Guide to Successful Online Learning: A Handbook of Tips, Strategies, and Techniques*.

Young, R.E. and Eble, K.E. (eds.). *College Teaching and Learning: Preparing for New Commitments*. San Francisco: Jossey-Bass (1988).

3. Websites:

<http://www.preparing-faculty.org>.

4. Handouts and Papers:

Cashin, W.E. IDEA Paper No.21: Defining and evaluating college teaching. Center for Faculty Evaluation & Development, Division of Continuing Education, Kansas State University. 1989; September.

Cashin, W.E. IDEA Paper No.22: Student ratings of teaching: Recommendations for use. Center for Faculty Evaluation & Development, Division of Continuing Education, Kansas State University. 1990; January.

Cashin, W.E. IDEA Paper No.32: Student ratings of teaching: The research revisited. Center for Faculty Evaluation & Development, Division of Continuing Education, Kansas State University. 1995; September.

Cashin, W.E. IDEA Paper No.33: Developing an effective faculty evaluation system. Center for Faculty Evaluation & Development, Division of Continuing Education, Kansas State University. 1996; January

Center for Instructional Excellence. *Evaluating Instruction*. College Teaching Workshop Study Guide, Purdue University. 1994, January.

Hoyt D. P., Pallett, W. H. *Appraising teaching effectiveness: Beyond student ratings*. *IDEA Paper #36*. Manhattan, KS: IDEA Center. 1999 (November).

Marincovich, M. *Ending the Disconnect between the Student Evaluation of Teaching and the Improvement of Teaching: A Faculty Developer's Plea*. Stanford, CA: . National Center for Postsecondary Improvement. (1998) 16p. [ERIC document # ED 428590]

Parks, M. B. Top ten list for effective classroom management. Program for Higher Education, Fischler Graduate School of Education. August 13, 1999.